

# PLUS RECHARGEABLE BATTERIES POWER BOX



## TECHNICAL SPECIFICATIONS

### REFERENCE

PA123791301

### POWER SUPPLY

Battery type	2 x 18650 lithium batteries (3,6V) (See "Batteries" table)
Battery voltage	3,6 VDC (per battery) (See "Batteries" table)
Power In (External Power)	5 to 24 V DC
Solar Panel voltage	6 to 15 V DC

### POWER OUT

Output power	5,5 VDC $\pm$ 5% <sup>[1]</sup>
PV (Power voltage battery status)	3,0 to 4,2 VDC <sup>[2]</sup>

### OPERATING ENVIRONMENT

Ambient temperature range	-30°C a 80°C
Relative humidity	$\leq$ 95% (non-condensing)

### HOUSING

Dimensions	120 x 90 x 50 mm
Weight	314 g
Material	ASA+PC-FR (UL 94 V-0) / Polycarbonate
Protection index	IP65

DS\_PLUS\_RECHARG\_BAT\_PW\_BOX\_E01B

CERTIFICATIONS AND APPROVALS

EMC Directive 2014/30/EU

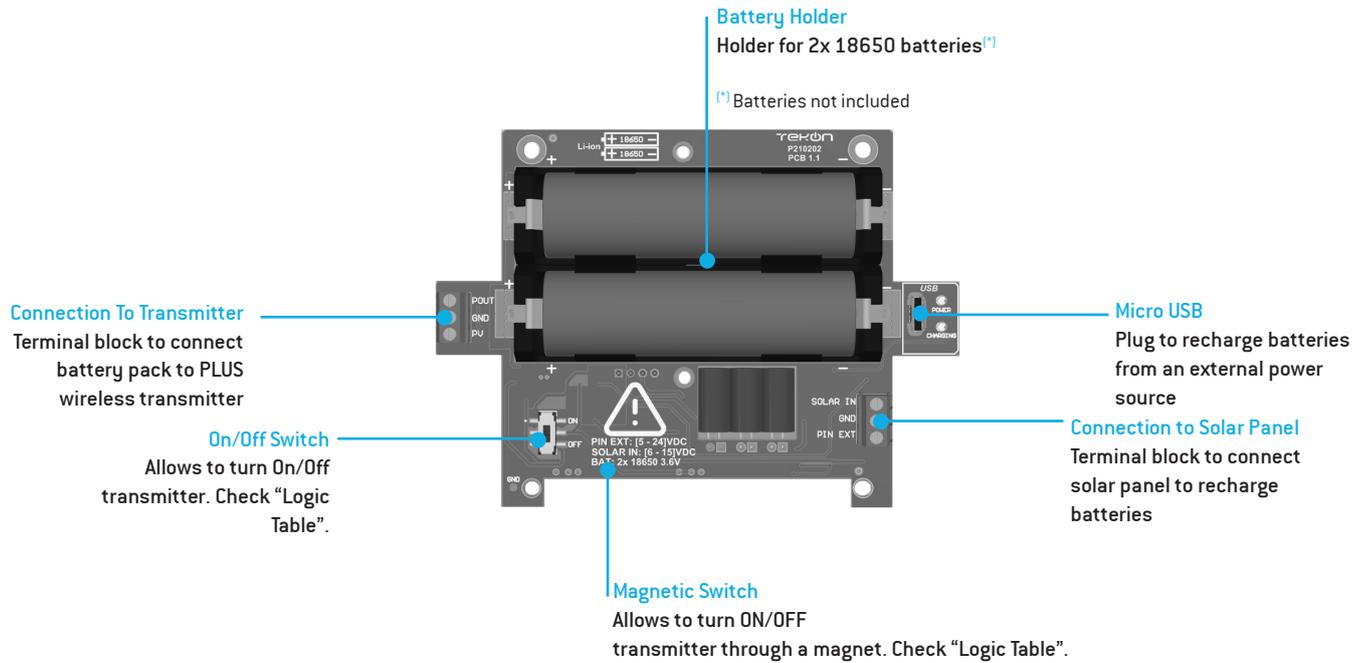
EN 61326-1

2011/65/EU - July 1, 2011

<sup>[1]</sup>When powered by batteries. Output voltage is equal to power in voltage when powered by an external power supply.

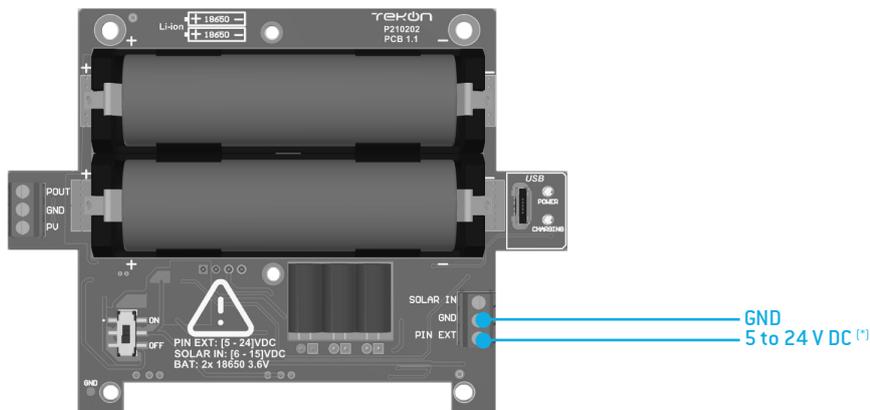
<sup>[2]</sup>If battery voltage is lower than 3,0 V DC, consider to recharge the batteries.

DESCRIPTION



WIRING DIAGRAM

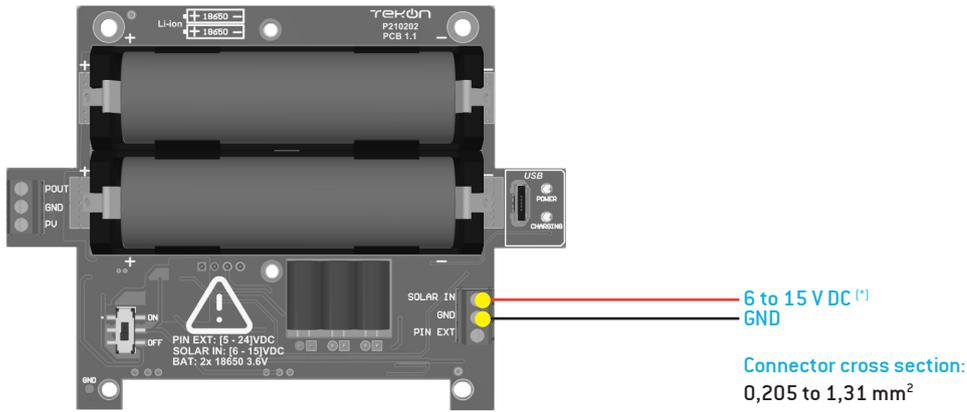
External Power Supply



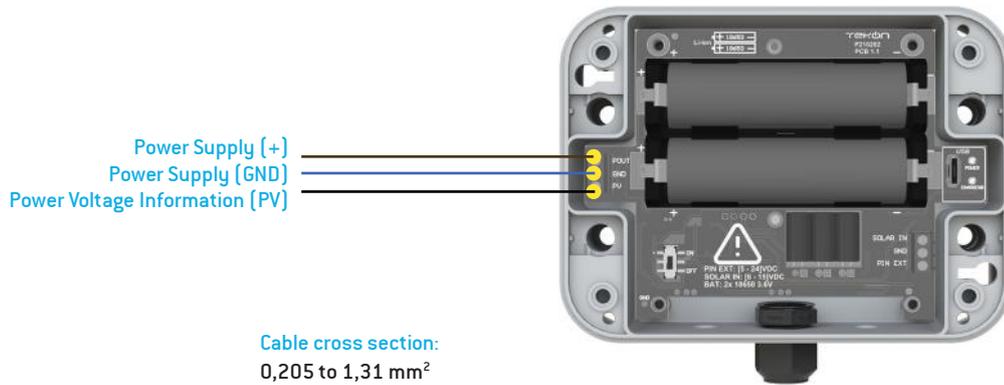
<sup>[1]</sup> External power can work simultaneously with primary batteries. Batteries works as a backup power when external voltage is equal or higher than 5,5 V.

Cross section of connector: 0,205 to 1,31 mm<sup>2</sup>.

Connection to Solar Panel



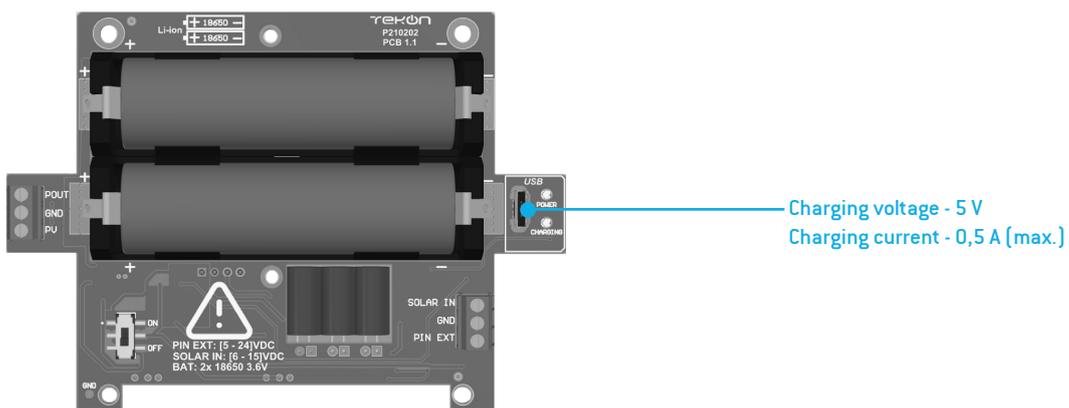
Connection to Devices



Note: If "PV" connection is in use, PLUS wireless transmitter will send battery voltage to gateway, otherwise the transmitter will provide "Power Out" voltage.

TERMINAL BLOCK	DESCRIPTION
Power Out	Regulated power output voltage
GND	Ground connection
PV	Power voltage to monitor battery voltage

USB Battery Charging



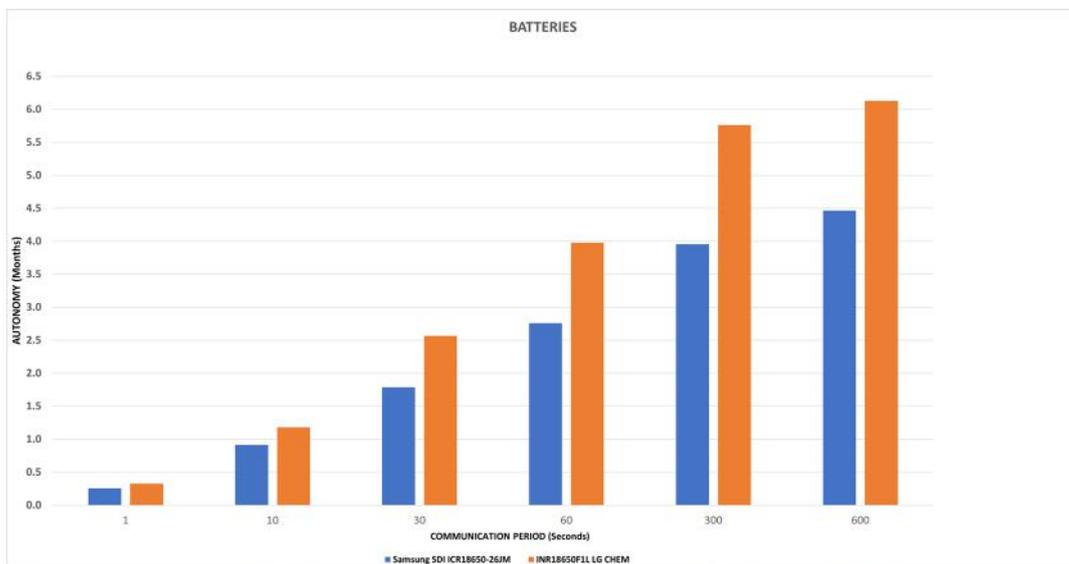
LEDS DESCRIPTION		
RED (POWER)	BLUE (CHARG.)	DESCRIPTION
ON	OFF	Charging system is powered by USB and batteries are fully charged
ON	ON	Charging system is powered by USB and batteries are charging
OFF	OFF	Recharge system is not powering the charging system

**BATTERIES**

RECOMMENDED BATTERIES <sup>(1)</sup>

BRAND	SAMSUNG	LG
Model	SDI ICR18650-26JM	INR18650F1L LG CHEM
TME Part Number	ACCU-ICR18650-26JM	ACCU-INR18650-3.35
Classification	Lithium	Lithium
Nominal Voltage	3,63 V	3,63 V
Charging Voltage	4,2 V	4,2 V
Charging Time	3 hours	4 hours
Type	18650	18650
Operating Temperature		
Charge	0°C to 45°C	0°C to 45°C
Discharge	-20°C to 60°C	-20°C to 50°C

PERFORMANCE



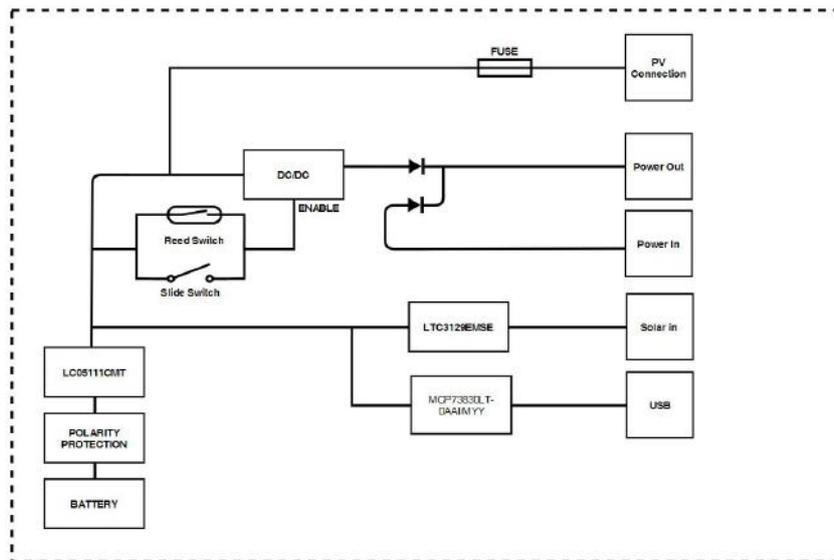
<sup>(1)</sup> Data obtained through theoretical approach.

**SWITCH**

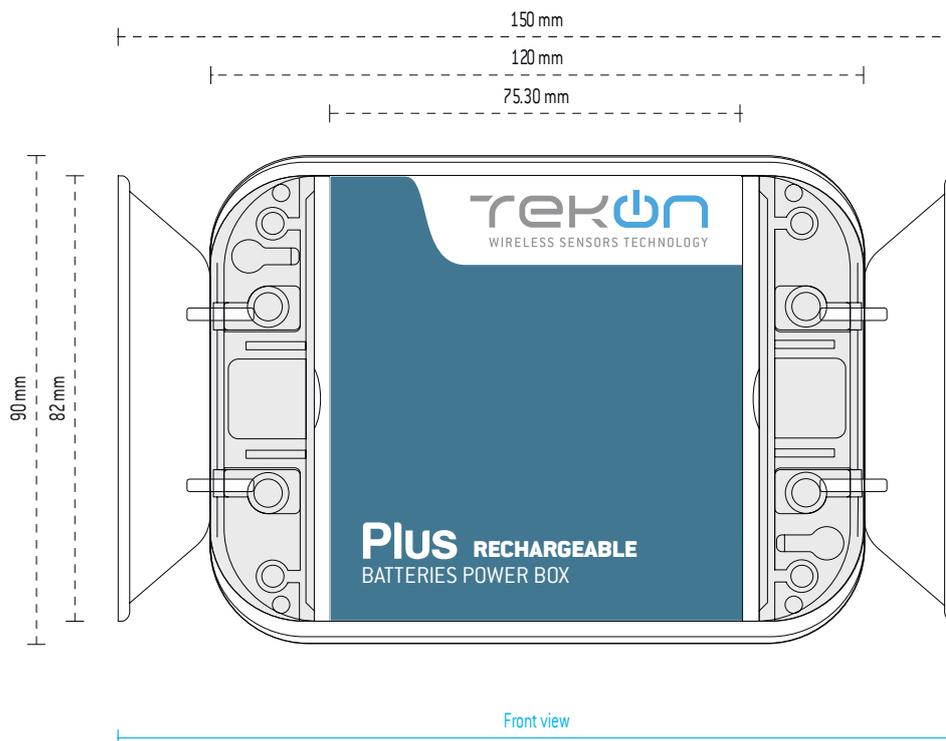
**LOGIC TABLE**

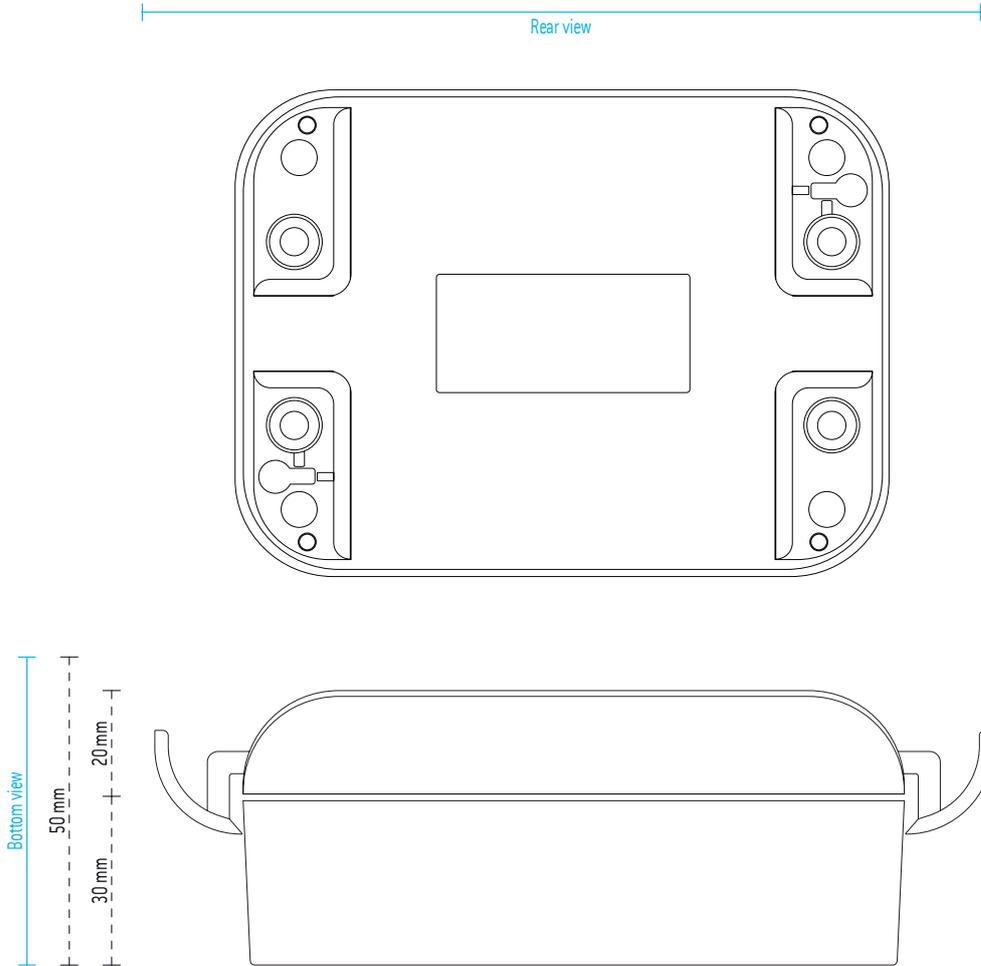
REED SWITCH	ON / OFF SWITCH	POWER OUT
On	On	On
On	Off	On
Off	On	On
Off	Off	Off

**BLOCK DIAGRAM**



**TECHNICAL DRAWINGS**





**REVISION HISTORY**

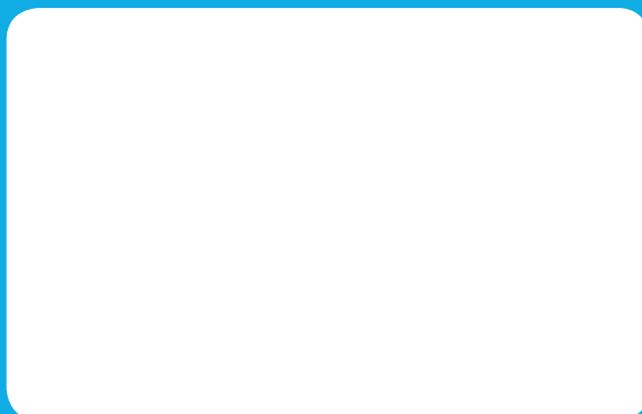
**VERSION**

E01B	Update of battery autonomy chart.
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